

CLAIMS

What is claimed is:

- 1 1. A self-pumping hydropneumatic spring strut with internal level
2 control, said spring strut comprising:
 - 3 a high pressure chamber containing a gas cushion acting as a spring;
 - 4 a working cylinder which is filled with damping medium under pressure of
5 said gas cushion;
 - 6 a working piston carried by a hollow piston rod and dividing said working
7 cylinder into two working spaces, one of said working spaces being connected to said
8 high pressure chamber to drive said piston under the pressure of said gas cushion, said
9 piston having at least one non-return valve which permits flow from said one of said
10 working spaces to the other of said working spaces;
 - 11 a low pressure chamber;
 - 12 a piston pump comprising a pump cylinder formed by said hollow piston
13 rod and a hollow pump rod received in said piston rod, said pump rod having a bore
14 with one end connected to said low pressure chamber and another end carrying a non-
15 return valve which permits flow from said low pressure chamber into said hollow piston
16 rod, and a cut-off orifice which connects said one of said working spaces to said low
17 pressure chamber as a function of the position of said piston in said working cylinder;
 - 18 and

19 an adjustable damping valve connected to a duct running from the other of
20 said working spaces, said valve having an actuating element acted on by the pressure
21 in said high pressure chamber and the pressure in said low pressure chamber.

1 2. A spring strut as in claim 1 wherein said actuating element is
2 spring-loaded in one direction.

1 3. A spring strut as in claim 1 wherein said valve comprises a valve
2 element which is controlled by said actuating element.

1 4. A spring strut as in claim 21 wherein said valve is a spring washer
2 valve.

1 5. A spring strut as in claim 1 comprising at least one flow connection
2 which provides flow from a respective at least one of said high pressure chamber and
3 said low pressure chamber to said actuating element.

1 6. A spring strut as in claim 1 wherein at least one said flow
2 connection has a throttle.

1 7. A spring strut as in claim 1 wherein said actuating element
2 comprises a piston arranged in a housing and having one end face acted on by
3 pressure of the high-pressure chamber and an opposed end face acted on by pressure
4 of the low-pressure chamber.

1 8. A spring strut as in claim 1 wherein said actuating element
2 comprises at least one stop which limits movement in a respective at least one
3 direction.